CLAIMS:

This listing of the claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A method of handling exceptions encountered during the translation of subject program code into target code, comprising:

detecting the occurrence of an exception;

selecting a level of subject context precision required for the detected exception from a plurality of possible levels of precision, wherein one of said possible levels of subject context precision is a precise subject register state including rectified subject registers and a precise program counter value; and

invoking a signal handler to handle the detected exception using the selected level of precision, wherein the selected level of subject context precision comprises either:

(a) a precise subject register state including the rectified subject registers and [[a]] the precise program counter value; or

(b) a level in which less than an entire subject processor state is passed to the signal handler, and

wherein in case (b), the selected level of subject context precision that is passed to the signal handler comprises one or more of (i) a last known stack frame, (ii) no subject processor state and (iii) a precise program counter value.

2. (Original) The method of claim 1, wherein the exception occurrence detecting step detects the occurrence of an exception signal during translation of the subject program code.

3. (Original) The method of claim 2, wherein the target code generated by the translation invokes a proxy signal handler to handle the detected exception.

4. (Original) The method of claim 1, wherein the exception occurrence detecting step detects the occurrence of an exception signal during execution of the target code.

5. (Original) The method of claim 4, wherein a target operating system invokes a proxy signal handler to handle the detected exception.

6. (Original) The method of claim 1, wherein the default level of subject context precision is a last known stack frame.

7. (Original) The method of claim 6, wherein the last known stack frame includes a last known stack pointer value, a base pointer value, and a program counter register value.

8. (Original) The method of claim 7, wherein said default level of subject context precision requires no rectification of subject register values.

9. (Cancelled).

10. (Cancelled).

11. (Cancel) The method of claim 1, wherein one of said possible levels of subject context precision is a precise subject register state including rectified subject registers and a precise program counter value.

12. (currently amended) ~~In a method of handling subject code exceptions in a~~ A translation system ~~employing a translator to translate subject code to target code, the steps~~ comprising:

~~generating a target context;~~

~~reconstructing a subject context using said target context, thereby generating a reconstructed subject context; and~~

~~executing a translated version of a subject signal handler associated with a particular said exception using the reconstructed subject context, wherein the step of reconstructing a subject context comprises reconstructing less than an entire subject processor state, and the reconstructed subject context includes one or more of (i) a last known stack frame, (ii) a zero level representing~~

a memory;

a processor coupled to the memory and operable to:

detect the occurrence of an exception;

select a level of subject context precision required for the detected exception from a plurality of possible levels of precision, wherein one of said possible levels of subject context precision is a precise subject register state including rectified subject registers and a precise program counter value; and

invoke a signal handler to handle the detected exception using the selected level of precision, wherein the selected level of subject context precision comprises either:

(a) a precise subject register state including the rectified subject registers and the precise program counter value; or

(b) a level in which less than an entire subject processor state is passed to the signal handler, and

wherein in case (b), the selected level of subject context precision that is passed to the signal handler comprises one or more of (i) a last known stack frame, (ii) no subject processor state, and (iii) a precise program counter value.

13. (Cancelled)

14. (Original) The method of claim 12 wherein said step of reconstructing a subject context comprises selecting one of a plurality of subject context precision levels for processing said exception.

15. (Cancelled).

16. (Cancelled).

17. (Cancelled).

18. (Cancelled).

19. (Original) The method of claim 14 wherein said step of reconstructing a subject context is performed by proxy signal handler code.

20. (Original) The method of claim 19 wherein said proxy signal handler code is registered in the target code by said translator and wherein said translator further raises a flag to said proxy signal handler indicating which of said plurality of subject context precision levels is to be used in response to said particular exception.

21. (Original) The method of claim 19 wherein said particular exception is detected during decoding of the subject code by said translator.

22. (Original) The method of claim 21 wherein said translator responds to detection of said particular exception during decoding to plant target code which generates said target context and invokes operation of the proxy signal handler code.

23. (Original) The method of claim 19 wherein said particular exception arises during execution of said target code.

24. (Original) The method of claim 23 wherein a target operating system responds to occurrence of said particular exception during execution of said target code to pass target context to said proxy signal handler code.

25. (Original) The method of claim 24 wherein, after receiving said target context, said proxy signal handler code calls the translator, which then invokes a selected translated subject signal handler.

26. (Original) The method of claim 14 wherein said exception is caused by one of a plurality of asynchronous external events and wherein said exception is handled using a selected default level of precision assigned to all asynchronous events.

27. (Original) The method of claim 26 wherein said selected default level is a last known stack frame.

28. (Original) The method of claim 19 wherein said proxy signal handler code is arranged to interact with a subject register bank.

29. (currently amended) A ~~method of~~ apparatus for handling exceptions encountered during the translation of subject program code into target code, comprising:

software encoded on a computer storage medium and operable to:

~~detecting~~ detect the occurrence of an exception;

~~selecting~~ select a level of subject context precision required for the detected exception from a plurality of possible levels of precision, wherein one of said possible levels of subject context precision is a precise subject register state including rectified subject registers and a precise program counter value; and

~~invoking~~ invoke a signal handler to handle the detected exception using the selected level of precision, wherein the selected level of subject context precision is passed to the signal handler and comprises ~~particular components of the subject context that make up less than an entire subject processor state~~ either:

(a) a precise subject register state including the rectified subject registers and the precise program counter value; or

(b) a level in which less than an entire subject processor state is passed to the signal handler, and

wherein in case (b), the selected level of subject context precision that is passed to the signal handler comprises one or more of (i) a last known stack frame, (ii) no subject processor state and (iii) a precise program counter value.

30. (Cancel) A method of handling subject code exceptions in a translation system employing a translator to translate subject code to target code, comprising:

generating a target context;

reconstructing a subject context using said target context, thereby generating a reconstructed subject context; and

executing a translated version of a subject signal handler associated with a particular said exception using the reconstructed subject context, wherein the step of reconstructing a subject context comprises reconstructing particular components of the subject context that make up less than an entire subject processor state.